ta Department of Natural Resources
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Strategic Information Plan

March 1991

MINNESOTA STATE PARKS
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BRINGING PEOPLE & NATURE TOGETHER

ANDERSEN CONSULTING
ARTHUR ANDERSEN & CO., S.C.

Consultant's Report prepared for the Department of Natural Resources

Executive Summary

This Strategic Information Plan links the Division of Parks and Recreation's investments in information management to its business plans and needs. It was prepared after conducting 8 group interviews with over 60 personnel representing the parks, regions and the central office.

The primary recommendation is to commit more financial and human resources to information management. Information is important to the Division, yet information management has historically not been viewed as a high priority investment.

Detailed recommendations are contained in section II, Management Overview. Section VI, Implementation Strategy, details what can be achieved in the '92 - '93 biennium at 3 different funding levels. Even at the highest funding level (approximately 0.6% of the Division budget), most high priority projects must still be deferred to future biennia.

Readers familiar with the Division of Fish and Wildlife's Strategic Information Plan will note that this plan intentionally shares its outline, approach and graphic layout. Careful review will reveal important areas of uniqueness, as well as a number of similarities and opportunities for cooperation in executing these plans.

Department of
Natural Resources
Division of Parks and Recreation
Strategic Information Plan

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I. Information Vision Statement

The vision statement below was drafted by Division management to indicate the strategic importance of sound information management.

"Information and related technologies will support the mission and the achievement of strategic objectives. Essential information categories include:

- ***Resource Information***
- ***Service Information***
- ***Operations/Administrative Information.***

This information will be available, within the law, to all parks, regions, Saint Paul offices and constituencies. Primary benefits of information use will be:

- ***Quality public service based on identified user needs and an improved understanding of users***
- ***Improved management decision-making***
- ***Empowerment of employees to better perform their jobs."***

II. Management Overview

A. Division Background

In 1991, the Division of Parks and Recreation will celebrate the 100th anniversary of the Minnesota State Parks System, honoring Itasca State Park, founded in April, 1891. During the past century, Minnesota citizens have succeeded in securing 65 state parks including over 200,000 acres. Nearly 8,000,000 visits to the state parks were made in 1989.

In addition to the parks, there are 6 regional offices and the central office in St. Paul. There are approximately 200 full-time employees, and between 500 - 600 seasonal employees.

Throughout its history, the Division of Parks and Recreation has been charged with finding the right balance between the protection of resources and providing public recreation. To accomplish its mission, the Division cooperates with other DNR divisions, other state agencies, local and federal units of government, as well as many private support groups.

The Division of Parks and Recreation receives funding from the Minnesota State Legislature through its general fund. Approximately one-third of the Division's receipts are from the sale of park permits, camping fees and lodging fees.

B. Division Mission and Strategic Issues

The Division of Parks and Recreation Mission Statement is:

> ***"To provide a state park system that perpetuates Minnesota's scenic beauty and its natural and cultural resources, while being responsive to public needs and expectations and providing a diversity of recreational opportunities."***

The Division has identified 8 major issue areas it faces in accomplishing its mission:

- Park Operations
- Park Planning
- Resource Management
- Interpretive Services
- Park Land Acquisition and Development
- Facilities Maintenance/Rehabilitation
- Staff Training
- Equipment Needs

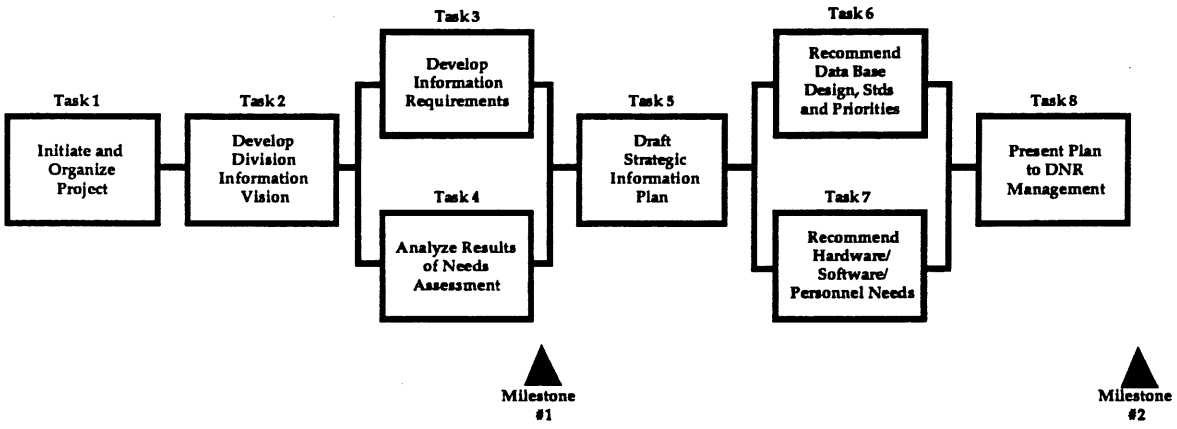
C. Plan Objectives & Approach

Objectives

The objectives of the Strategic Information Planning Project were:

- To determine information technology requirements by conducting a thorough needs assessment
- To develop a practical, cost-effective Strategic Information Plan which will help solve the Division's business problems through application of appropriate technology
- To develop a blueprint, or conceptual system architecture, to support the Strategic Information Plan
    - Create a communications blueprint for improving local, regional, and statewide data sharing
    - Design a global data architecture
    - Develop a hardware and software blueprint

Department of Natural Resources
Division of Parks and Recreation
Strategic Information Planning Project Approach



Approach

The diagram on the facing page highlights our approach to this project. This approach was based on Information Policy Office requirements, Andersen Consulting's Method/1® Information Planning Methodology and the Division's specific Request For Proposal requirements. The approach was specifically designed to obtain active and detailed involvement of field personnel and Division management.

The project team:

- Conducted an information vision session with top Division management and developed a vision statement that provides an overall direction for uses of information and technology

- Identified information requirements through eight group interviews with over 60 Division personnel. Scope of inquiry included:

  - Major business functions
  - Information needs
  - Data sources and uses
  - Satisfaction with current information
  - Identification of problems or issues related to current information

- Analyzed information requirements to:

  - Identify strategic information opportunities for the Division
  - Assess the current hardware/software baseline

- Identified the high priority information projects and phasing recommendations for the next three biennia

- Developed preliminary estimates for equipment, software, personnel and facilities required for projects in the '92 - '93 biennium

D. Interview Results

Interview results are presented in the following categories:

1) General Findings (all areas)
2) Park Operations
3) Park Planning
4) Resource Management
5) Interpretive Services
6) Park Land Acquisition and Development
7) Facilities Maintenance/Rehabilitation
8) Staff Training
9) Equipment Needs

1) General Findings

- Division personnel often receive multiple requests from the central office for the same information.
- Day-to-day operations are very paper intensive.

2) Park Operations

- Budgeting information is not timely enough. Up-to-date, on-line information is required for planning purposes.
- Budgeting decisions are complicated by the fact that budget data must be assembled from numerous sources.
- Personnel-related paperwork is excessive; approximately 14 forms are required to add a new employee. Much of the information is redundant. *
- Document filing is not consistent throughout the Division. As a result, the document retrieval process is cumbersome.
- The day-to-day purchasing process is cumbersome. There is a need for:
  - Current vendor lists; including names, addresses, and phone numbers
  - Contract data
  - Supplier information
  - Purchase history
  - Current information on payables and cash disbursements
  - Current procedures
- Fixed asset inventory is not current or usable.

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* Personnel paperwork requirements are not within the Division's direct control.

- Consumables inventory information is not current or usable.
- Merchandising operations are not consistent across the Division. Information required to effectively support and track operations is not available or not current at all locations.
- Enforcement personnel do not have consistent access to other law enforcement agencies' computerized information.
- Weekly receipts, attendance, and inventory reporting activities were described as time consuming, cumbersome processes.
- Present revenue collection and reporting processes are time consuming.

3) Park Planning

- There is only one planner for the entire state park system.
- Park plans, written in the 1970's, have become obsolete.
- Managers would find it helpful to have other parks' plans available in an electronic format for reference purposes.

4) Resource Management

- Existing resource maps for parks are inconsistent or outdated (some circa 1930's) . Maps of many parks areas do not exist.
- Resource data is not available or is not easily accessible. There is a need for cultural and resource inventories.
- Many resource management activities are either performed without formal prescription, not recorded, or not tracked.
- There is a need for a Geographic Information System (GIS) to assist with resource management activities.

5) Interpretive Services

- No consolidated list of resource research materials or audio-visual materials is available.
- Interpretive services personnel publish documents regularly. More tools are needed for desktop publishing.
- Interpretive services personnel require resource management information; much needed information is either not available or not accessible.

6) Park Land Acquisition and Development

- A means of tracking land status is required.

7) Facilities Maintenance/Rehabilitation

- Schedules of regular maintenance activities are not available.
- Historical data on facilities and maintenance is often not recorded in any form.

8) Staff Training

- It is difficult to track what training an individual has completed as well as any additional training requirements.
- Consolidated information on training materials (manuals, expertise, aids) is needed.
- Many Division personnel need additional computer-related training.

9) Equipment Needs

- Only 39 of 65 state parks have computers.
- Hardware standards have existed for some time. However, many computers in the field are old and not completely compatible.
- Standards exist for word processing, spreadsheets, operating systems and communications software. However, some old releases of the standard packages remain in use.

E. Recommendations

An overall recommendation is to commit greater human and financial resources to information management. Failure to do this will hamper the efficiency and effectiveness of park resource management. *

This section highlights the project team's recommendations in each of the following categories:

1) General Recommendations
2) Park Operations
3) Park Planning
4) Resource Management
5) Interpretive Services
6) Park Land Acquisition and Development
7) Facilities Maintenance/Rehabilitation
8) Staff Training
9) Equipment Needs

Given anticipated funding levels, not all recommendations can be implemented. Section VI, Implementation Strategy, outlines projects to implement the recommendations and how funding constraints affect their timing.

1) General Recommendations

a. Hire Division Programmer/Analyst

A programmer/analyst should be added to the Division to assist in development of new applications and to support hardware and software.

b. Coordinate Technology Approach *

Division information systems and resource management databases should be developed using technology compatible with the infrastructure provided by the MIS Bureau and with future Geographic Information System (GIS) technology requirements.

To support future usage as a part of the GIS, any database project should provide allowances for geocoding in the database design. The geocoding approach and choice of database management system should be coordinated with GIS developers to ensure an eventual smooth transition to GIS. Consideration should be given to use of an "industrial strength"

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* Denotes recommendation also made in the Division of Fish and Wildlife's Plan. We recommend that the divisions cooperate when implementing these recommendations.

database management system (Oracle, INGRES and similar products fall in this class) which would meet the high performance requirements of a GIS environment. Developing topical databases on a strong foundation would likely avoid the need for a substantial conversion effort to a GIS environment.

The long-term infrastructure to be provided by the MIS Bureau supports a client-server architecture. This approach provides a great deal of technological flexibility. Two major technological approaches are completely compatible with this infrastructure:

Alternative A: Develop systems and databases on the AS/400 platform with a traditional network environment

Alternative B: Develop systems and databases in a Local Area Network (LAN) environment, using either an AS/400 or a suitably-sized microcomputer as the server

A third choice, while viable, essentially lies outside the infrastructure framework:

Alternative C: Develop systems and databases on stand-alone personal computers (PCs)

On a case-by-case basis, systems and databases should be targeted to one of these three alternatives. In the right situation, each approach has merits, so there is no universal "best" answer for all Division systems and databases. Choices should balance the variables of meeting user needs, utilizing resources effectively, and strategically investing to ensure a smooth and less costly GIS implementation.

The MIS Task Force should take an active role in coordinating the decisions with the MIS Bureau.

c. Implement Anti-Virus Software and "Safe Computing" Practices *

All LANs and stand-alone PCs should have anti-virus software installed to detect computer viruses. Anti-virus software usually provides an audit trail of system users and files that were accessed. It also provides warning messages to users when potential viruses are located that allows cancellation of processing. More importantly, "safe computing" practices to prevent virus attack should be developed and communicated.

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d. Develop Bulletin Board Procedures

Written procedures for the use of the Parks Bulletin Board should be enhanced to ensure proper use of the facility.

e. Improve Process/Work Flow *

Prior to automation, processes and work flows should be streamlined. The following activities are primary candidates:

1. Budgeting/Planning
2. Personnel Management
3. Weekly Receipts Reporting
4. Attendance Reporting
5. Project Management

f. Automate Forms and Document Templates

Standard forms and templates should be provided as part of the personal computer tool kit. Primary candidates for automation:

- Personnel forms and documents
- Resource data collection forms and documents

g. Design and Implement a Standardized Filing System

Develop Division-wide indexing, filing and retention standards. Train personnel in these standards.

h. Develop a Library Reference System

A database system containing a comprehensive listing of reference materials should be developed.

2) Park Operations

a. Streamline Budgeting/Cost Accounting Activities *

The Division should continue its efforts to review and analyze work flows associated with the budgeting and cost accounting functions. Work flow activity should be streamlined to improve productivity.

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* Denotes recommendation also made in the Division of Fish and Wildlife's Plan. We recommend that the divisions cooperate when implementing these recommendations.

b. Streamline Day-to-Day Purchasing Activities

The day-to-day purchasing activities should be analyzed and streamlined. The Department of Administration's procurement system (PALS) should be supplemented with additional Division tools that automate repetitive tasks. Policies, procedures and guidelines information should be provided to support purchasing activities. Up-to-date contract/vendor information should also be provided.

c. Design and Implement Fixed Assets System Improvements

Investigate why the data in the existing system is out-of-date and unusable and make needed procedural and system changes to support this critical area.

d. Streamline Merchandising Activities

Current merchandising activities should be analyzed and streamlined. Standards should be developed for the merchandising program including pricing guidelines, procedures, accounting and reporting standards and general objectives for the merchandising program.

e. Implement an Automated Customer Service/Information System *

This system could potentially include enhanced phone automation capable of directing customer calls through touch-tone entry. It could also provide operators with artificial intelligence assistance to allow them to answer public queries about parks and resources.

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* Denotes recommendation also made in the Division of Fish and Wildlife's Plan. We recommend that the divisions cooperate when implementing these recommendations.

f. Design and Implement Relationship Marketing System

This system would enhance the Division's ability to provide information based on existing "customer" relationships and services, and potentially the ability to influence demand patterns.

The database would draw from the MISTIX reservations system as well as data on other user groups such as:

- Annual permit holders
- Passport Club holders
- Callers to the Parks Information Line
- Volksmarch registrants
- Fishing and Hiking Club members
- Snowmobilers and cross-country skiers

We recommend that the Division explore the potential of developing this system in a joint effort with another state or group of states.

3) Park Planning

a. Implement Project Management System *

A project management system should be selected for Division-wide use. This system could potentially be used to track planning, resource management, and facilities maintenance and rehabilitation projects. This system should provide the following capabilities:

- Project planning and estimating
- Inventory of personnel and equipment
- Scheduling of personnel and equipment
- Fleet charge allocation
- Bulk purchase allocation
- Federal Aid tracking
- Time reporting

The Division should develop unique "model" work plans for the specific types of projects that are to be managed using the system.

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* Denotes recommendation also made in the Division of Fish and Wildlife's Plan. We recommend that the divisions cooperate when implementing these recommendations.

4) **Resource Management**

a. Participate in Resource Database Design

Parks should work with other divisions whenever resource databases are designed. This might eliminate the need for the Division to undertake certain resource database development efforts.

5) **Interpretive Services**

a. Purchase Standard Desktop Publishing Software/Hardware

Provide enhanced desktop publishing applications to enhance the professional appearance of publications.

6) **Park Land Acquisition and Development**

a. Implement Land Tracking System *

Design and implement a system to track land ownership. The system should identify current status of land holdings, acquisitions, resource information about the parcel, information on the location/boundaries of the parcel, selling price and appraisal information.

7) **Facilities Maintenance/Rehabilitation**

a. Design and Implement a Facilities and Equipment Maintenance System

Select or develop a system to manage facilities and equipment maintenance records and timetables.

8) **Staff Training**

a. Provide a Standardized Computer Training Program

A standard computer training program should be developed to provide hardware/software basics and instruction in Division-wide applications.

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* Denotes recommendation also made in the Division of Fish and Wildlife's Plan. We recommend that the divisions cooperate when implementing these recommendations.

9) Equipment Needs

a. Include Hardware/Software in Equipment Plans

Finalize the schedule for acquisition of hardware and software over the planning period. The schedule should detail what hardware and software would be purchased for each park and region as well as the central office. Communications standards could also be upgraded (e.g. faster modems).

F. Business Effects of Executing This Plan

The major issues facing the Division were identified in section II.B, Division Mission and Strategies. Recommendations were made in section II.E, Recommendations. The cross-reference below shows which recommendations apply to each issue.

Issues	Recommendations
Park Operations	1a-h, 2a-f
Park Planning	1a-h, 2a, 3a
Resource Management	1a-h, 3a, 4a
Interpretive Services	1a-h, 4a, 5a
Acquisition and Development of Park Lands	1a-h, 6a
Maintenance/Rehabilitation of Facilities	1a-h, 2a, 3a, 7a
Training of Staff	1a-h, 8a
Equipment for Parks	1a-h, 9a

For further information on the specific projects, time lines, and resources required to achieve these benefits, refer to section VI, Implementation Strategy.

III. Hardware/Software Baseline

A. Overview

The Division has established standards for hardware and software purchases and has equipped 39 of 65 parks to date. Since standards have evolved, some parks have greater capabilities than others. Some older equipment will require replacement as failures occur.

A handful of the 26 non-equipped parks would require more space or environmental changes in order to accept a system. The vast majority could immediately utilize a computer system if it were made available.

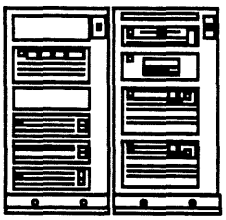
The Division has established central responsibility for hardware and software support. Some computer-literate individuals in the field have been able to provide additional support.

Relatively few applications have been developed for Division-wide use. Individuals at different locations fear that they have "reinvented the wheel" by developing applications to meet their operational needs. For example, many parks have developed personnel-related spreadsheet applications.

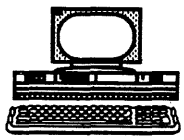
B. Current Technology

The graphic below is a legend to the following technology diagrams. The purpose of these diagrams is to graphically depict, at a strategic level, the technology resources found across the Division.

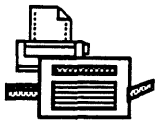
Technology Legend


- IBM AS/400 or System 36

- Dedicated AS/400 or System 36 terminal

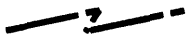

- IBM PC, XT-286, 286/386 portable, PS2, or compatible personal computer


- Apple Macintosh computer


- Printer

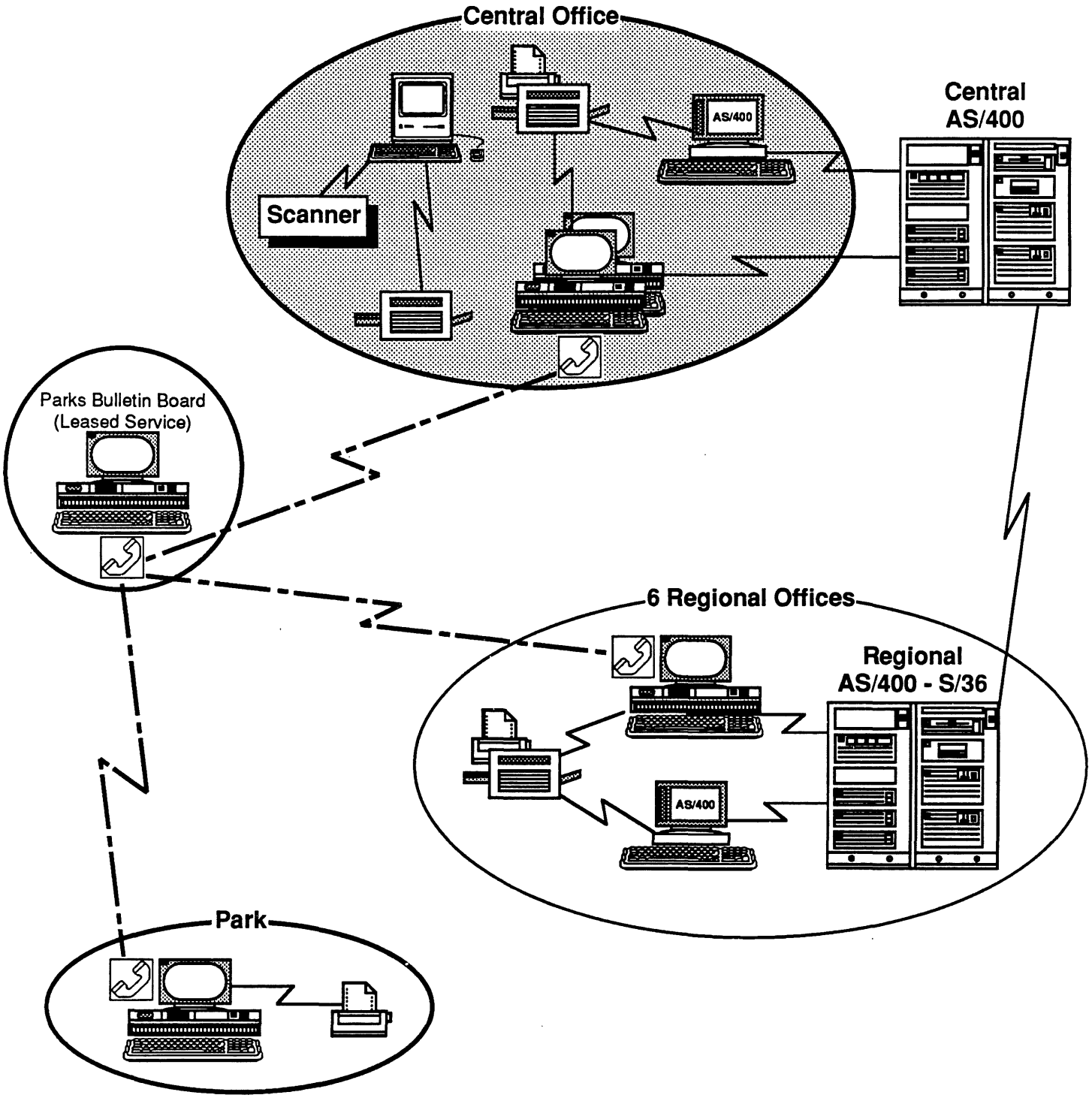

- Communications capability (dial-up/modem)


- Direct (non-network) connection


- Indirect (dial-up) connection

Central Office

Current Technology



Central Office - Current Technology

The diagram on the facing page illustrates the hardware in the central office:

- IBM XT-286, PS2, or portable computers; 12 of which have emulation boards to connect to the Department's AS/400. Nearly all of the microcomputers are equipped with 1200 baud modems and are connected to either a dot-matrix, laser or ink jet printer.

- 13 dedicated AS/400 terminals and three AS/400 printers

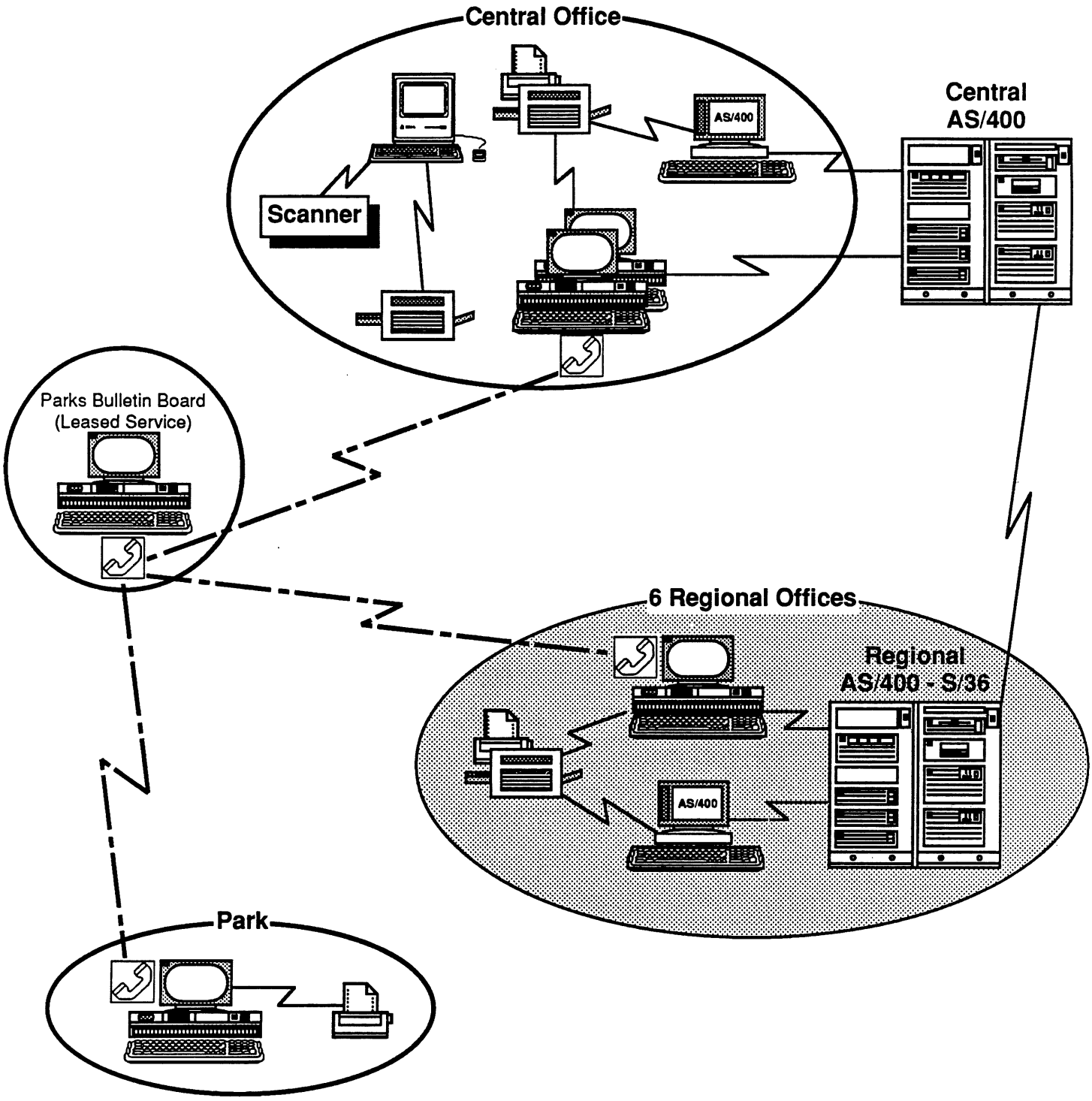
  - 2 laser printers
  - 1 letter quality daisy wheel printer

- Three Apple Macintosh microcomputers; 2 are connected to an Apple laser printer, the other to an ink jet printer; 1 scanner is available.

- The Parks Bulletin Board is a leased bulletin board service, externally supported, available to all those with access to a PC and modem.

Regional Offices

Current Technology



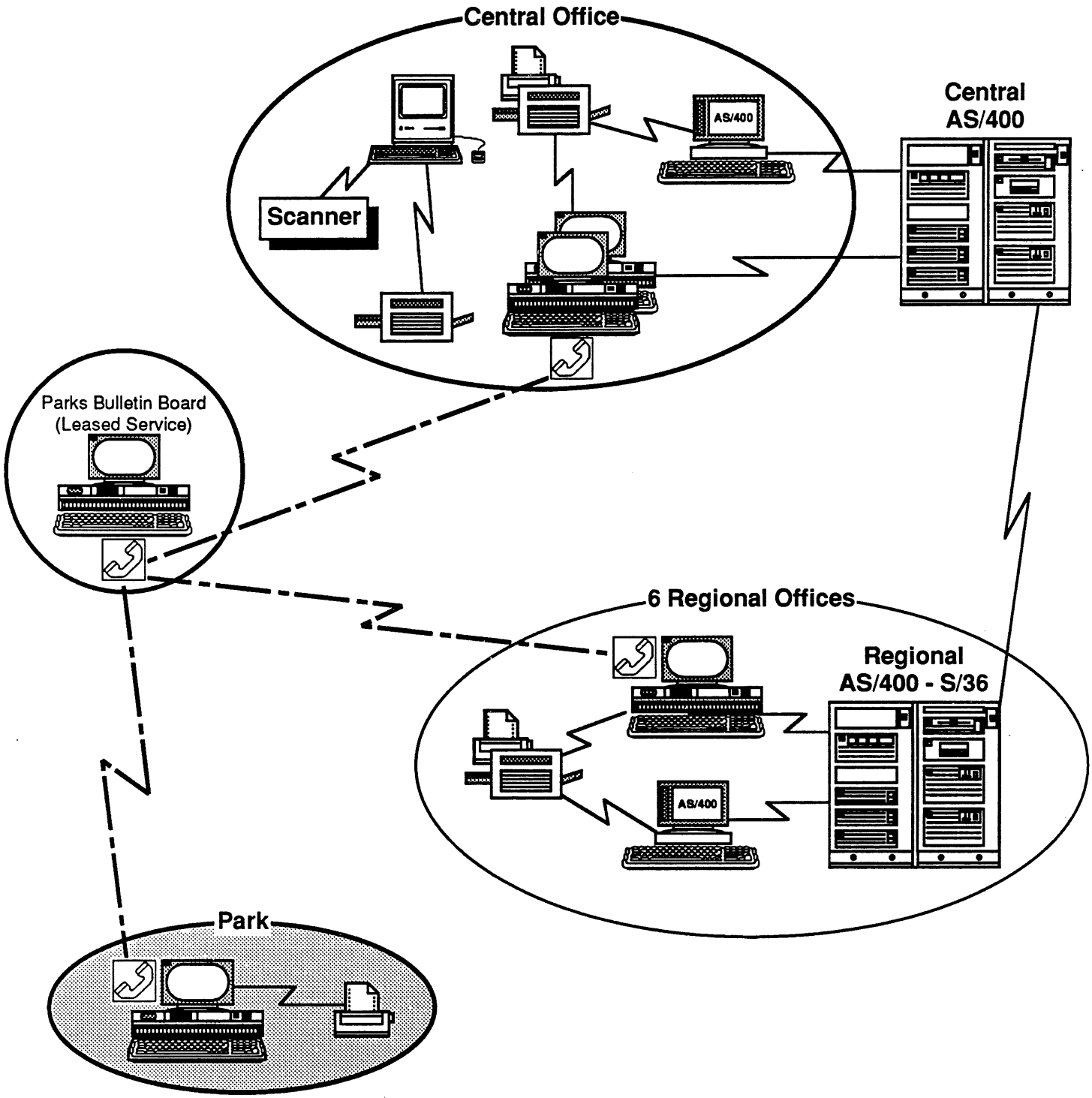
Regional Offices - Current Technology

The diagram on the facing page illustrates the standard hardware configuration in the regional offices:

- Stand-alone IBM PC, XT-286 or compatible
- PCs and dedicated terminals set up to access the region's AS/400 or System 36
- Compaq portable 386
- Dot-matrix printer
- Hewlett-Packard Desk Jet Plus printer
- Some regions also have laser printers
- Hayes 1200 baud modem

Parks

Current Technology



Parks - Current Technology

The diagram on the facing page illustrates the standard hardware configuration found in 39 of the 65 parks:

- Stand-alone IBM PC, XT-286, or PS2 - Model 50-55 or compatible
- Dot matrix printer
- Hayes 1200 baud modem

In addition to the common park equipment, some parks have additional equipment to support special systems. Each of the following systems has additional hardware and software specific to its application:

- Flood Warning System - Whitewater
- Mapping System - Forestville
- Inventory System - Gooseberry Falls

C. Current Applications

While computers are actively used by many field and central office personnel, the Division operates few centrally managed computer applications. Most computer-assisted work is performed using packaged software such as LOTUS or Wordperfect. Most databases are PC-based and were developed with tools such as Dbase 2 or 3. Local and regional applications were not developed using Division or Department standards for design, documentation, backup, or disaster recovery. They were developed to serve the needs of Division personnel in the absence of more formal applications.

Following is a list of databases and applications identified during the strategic information planning process. It is undoubtedly not an exhaustive list, but it serves to indicate the number of small, regional or local applications or databases that exist.

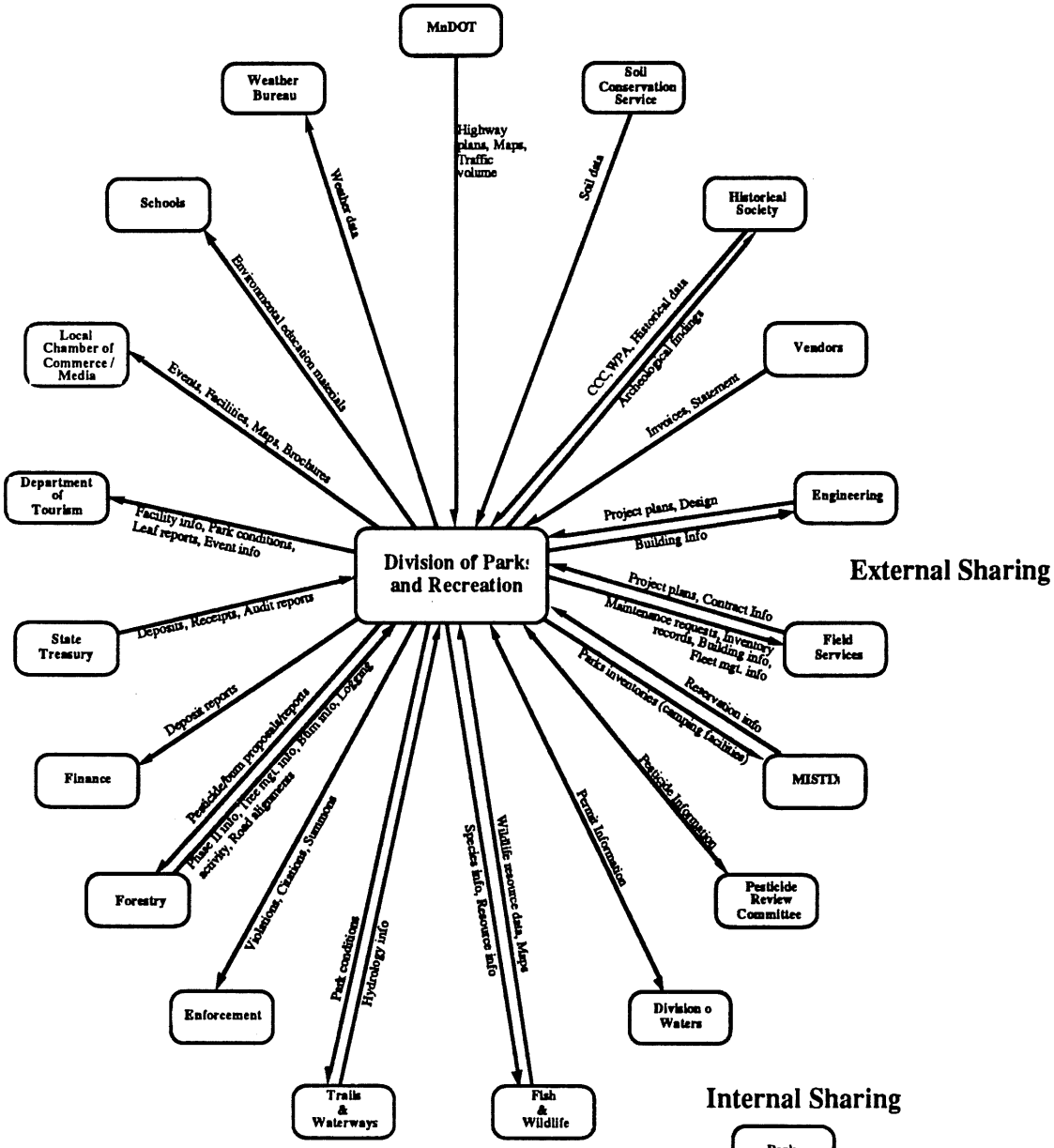
Central Applications and Databases

Budgets and Operating Standards
Attendance
Cost Accounting/Labor
Revenue Collection
Permit History
Land Acquisition Database
Development Project Database
Weekly Receipts
Merchandise
Spreadsheets
Word Processing
Database Systems
Desktop Publishing

Local and Regional Applications and Databases

Budgets and Operating Standards
Attendance
Weekly Receipts
Personnel Scheduling
Personnel Records Database
Slide Reference Database
Merchandising/Inventory
Deer Hunt Database
Asset Inventory
03 Labor Report
Group Center Reservations
Species List Database
Audited Permit Inventory
Lodging Summary
Park Cost Accounting by Pay Period
Budget Liquidations
Artifact Cataloging
Species Database
Forestry Phase II
Fish Survey
Wetlands Inventory
Deer Area Plots
Project Area Plots
Spreadsheets
Word Processing
Database Systems
Desktop Publishing

Parks and Recreation
Current Data Sharing



D. Current Data Sharing

As is evident from the facing diagrams, the Division of Parks and Recreation exists in a complex data sharing environment. Smooth operation of the Division's functions requires efficient and open data sharing among a large number of independent organizations.

Not all of the data sharing connections identified were of equal importance. The most critical and heavily used links were between the parks, regions and the central office.

E. Current Standards and Security

Current Standards

Microcomputer Hardware and Software Standards

The Division has developed standards for microcomputer configuration and for selection of packages for spreadsheet, word processing, desktop publishing, database management, and communications applications. All new purchases must comply with the established standards. Standards have been upgraded over time to utilize advances in hardware and software technology.

Telecommunication Standards

Most telecommunication activity takes place using the Parks Bulletin Board located in St. Paul. This is a leased service by which word processing and data files may be uploaded and downloaded at a central location. The majority of parks and regional offices have standard 1200 baud modems to use for this purpose. Weekly attendance reports are sent from park locations to the central office to update the central activity files. A manual process is required to convert the report data to a usable spreadsheet format.

Systems Development Methodology

A number of individuals have developed applications using available microcomputer tools. The team found no evidence of standards for developing or documenting these applications.

Systems development methodology standards help ensure system quality in a number of ways:

- They help ensure important steps, such as systems testing, are not forgotten by the individual(s) developing a given system.

- They help enforce important standards, if set, that make applications more useful and easier to learn. For example, a standard typically called "consistent user interface" would help ensure that the presentation and behavior of different applications is similar. This reduces the need for specific training in system operation.

Documentation Standards

The team found no evidence of Division system documentation standards. There are two types of documentation standards -- **system documentation standards** and **user documentation standards:**

System documentation standards aid the developer and others who need to maintain the system in understanding the system and database design.

User documentation standards aid the system user. Documentation produced according to standards helps ensure the system can be readily learned and can provide "helpful hints" when difficult concepts are involved.

Security

The primary security threat in a decentralized, microcomputer-based environment is the potential for inadequate backup and recovery, both in the case of "normal" failures and in the special cases of disaster or "virus" invasion. Through computer training sessions and memoranda, the Division has emphasized the importance of following backup procedures. The Parks Bulletin Board, a potential entry point for viruses, has received less attention from the security standpoint.

Access Security will become more important as the Division develops data and applications that are meant to be shared. Multiple levels of access are possible; for example, a person may have the ability to enter a particular system, but not to particular data within that system. As the Division expands its use of data and systems, it will need to make decisions regarding these issues.

Ability to Update versus View is another important security issue. "Who has authority to update data and under what circumstances?", is another question to be answered during design of each database and application.

The reader should note that this section has only scratched the surface on some of the complex issues in the standards and security areas which the Division will be required to address as it moves forward with implementation of this Strategic Information Plan.

F. Current Information Services Organization

Responsibilities

Several individuals have taken responsibility for information service support activities in addition to their normal park or regional management responsibilities.

The following list identifies individuals involved with information support activities and their specific area of responsibility or expertise:

Suzanne Jenkins	Central Office	•	Division MIS Supervisor
Bryce Anderson	Region 1	•	Hardware/Software Support
Carol Bodin	Sibley Park	•	Hardware/Software Support
Dan Breva	Central Office	•	Hardware/Software Support
Dave Capps	Mille Lacs	•	Hardware/Software Support
Bob Johnson	Region 5	•	Hardware/Software Support
Jerry Katzenmeyer	Itasca	•	"Receipts" Application
Mark Kovakovich	Region 2	•	Hardware/Software Support
Cari Oberstar	Central Office	•	New Weekly Receipts Application
Diane Sapletal	Central Office	•	Inventory and Attendance Applications
Ted Shepard	Region 2	•	Hardware/Software Support

Task Force

An MIS Task Force for the Division was established to make sure the computer needs of all Division employees are considered for future computer purchases, and to recommend a list of priorities in the order in which purchases of computer software and hardware are made. Individuals on the task force are:

Dan Breva	Operations Specialist	Central Office
Bryce Anderson	Naturalist	Region 1
Ed Brekke-Kramer	Resource Specialist	Region 4
Pat Anderson	Park Secretary	William O'Brien State Park
Eunice Luedtke	Manager	Jay Cooke State Park
Dennis Thompson	Park Planner	Central Office
David Capps	Assistant Manager	Mille Lacs Kathio State Park
Suzanne Jenkins	Division MIS Supervisor	Central Office

Relationship to DNR Management Information Systems (MIS) Bureau

The Management Information Systems (MIS) Bureau currently provides maintenance and support only for the Division's AS/400 based applications. These include:

- Time Reporting
- Calendaring System
- Electronic Message System
- Conference Room Reservation System
- Departmental Cost Accounting System

The MIS Bureau is planning new initiatives which should benefit the Division including:

- Geographical Information Systems
- Network and Communications Systems
- Additional AS/400 processing

As the Division develops new systems, it should work closely with the MIS Bureau to ensure that these new systems take appropriate advantage of the resources and support available.

In the future, the Division may decide to locate databases or develop additional applications on the AS/400. The MIS Bureau would have a stronger systems maintenance and support role in these scenarios.

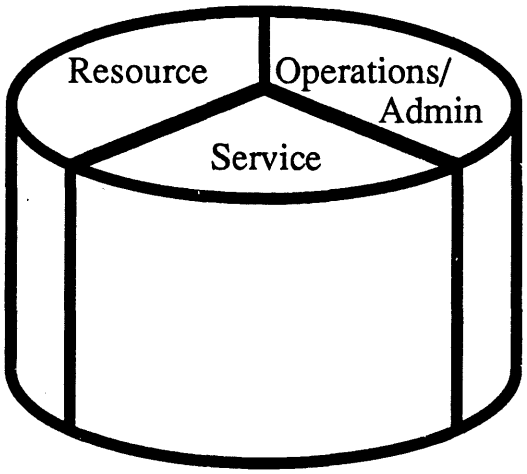
IV. Information Needs Assessment

A. Overview

The Division of Parks and Recreation is a major developer and user of information. Division staff develop much of the state's information on park resources, programs and usage and have a critical need for administrative, forestry, waters, soils and other types of information.

During the 8 interviews that took place as part of the Division's strategic information planning process, 23 broad information categories were identified as being used in performing one or more of the Division's functions. These 23 information categories are the basis for the conceptual data model depicted below. The model organizes Division information into a cylinder comprised of three information segments - resource, service and operations/administration.

Division of Parks and Recreation
Conceptual Data Model



When organized according to the Division's data model, the 23 information categories break out as follows:

Resource Information

- Facilities/Maintenance
- Land Acquisition
- Project Management
- Research/Literature
- Resource Inventories
- Resource Management & Planning

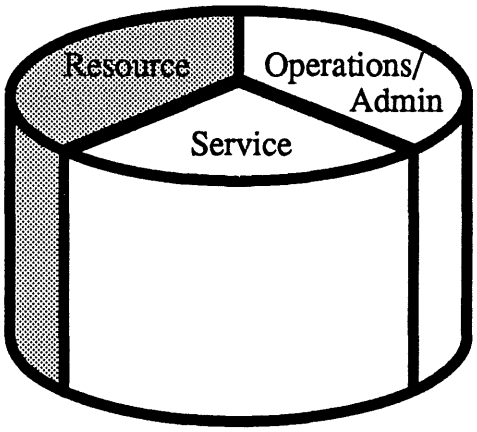
Service Information

- Communication, Publicity & Marketing
- Education
- Enforcement
- Interpretive Data
- Licenses/Permits
- Park Information
- Programs and Events
- Reservations/Usage

Operations/Administration Information

- Budgeting/Cost Accounting
- Fleet Management
- Inventory (Fixed Assets and Consumables)
- Merchandising
- Personnel Education and Training
- Personnel
- Policies, Procedures and Standards
- Purchasing
- Revenue

Resource Information



Information Category	Park Managers Rochester	Park Managers G. Rapids	Park Managers Sibley	Park Managers Brainerd	Resource Special-ists	St. Paul Office	Clerical Support	Inter-pretive Services
Facilities/Maintenance	2 L	1 M	1 M	2 M		1 L		
Land Acquisition	3 M	3 M	2 L	3 L				
Project Management		2 L			1 L			
Research/Literature			1 L		1 L			2 L
Resource Inventories	1 M	2 L	2 L	1 L	1 L			1 L
Resource Management/Planning	1 M	2 L	2 L	2 L	1 L			1 L

KEY	
Information Priority	**Satisfaction Level**
1 = High	H = High
2 = Medium	M = Medium
3 = Low	L = Low

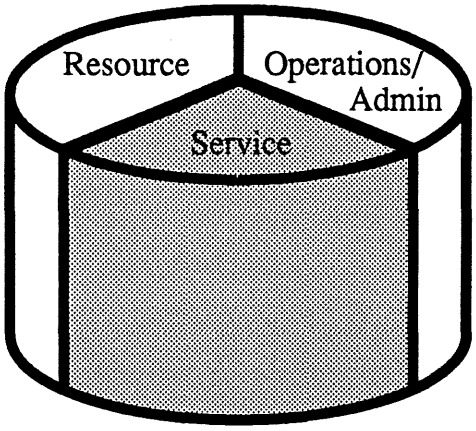
B. Resource Information Assessment

The resource information portion of the conceptual data model contains information necessary for managing the natural resources within Minnesota's state parks. Four of the six categories -- resource inventory, resource management/planning, facilities management, and land acquisition information -- were considered to be particularly important to the park managers, resource specialists and interpretive services staff. In addition, participants in the resource specialists and interpretive services interviews, along with several park managers, considered project management and research information to be critical to their operations.

Satisfaction with most of the resource information categories was low, primarily because many of the most important forms of information were simply not available. Participants reported that resource inventory and resource management information was usually "not there" and that land acquisition information, particularly information needed to track land purchases, was "virtually non-existent". When information did exist, it was frequently out-of-date, unreliable, and not compatible with other data sources. Information on forests, wildlife, water and land resources, for example, are not compatible and cannot be easily integrated.

Criticisms of project management and research information focused on organization, timeliness and usability. Participants in the resource specialists and interpretive services interviews felt that research information was not organized, incomplete and hard to use. Similarly, participants considered their project management information to be disorganized, difficult to get, and not timely.

Service Information



Information Category	Park Managers Rochester	Park Managers G. Rapids	Park Managers Sibley	Park Managers Brainerd	Resource Special-ists	St. Paul Office	Clerical Support	Inter-pretive Services
Communication,Publicity,Mktng.	1 M	2 M		1 M	1 L	2 M	1 M	1 L
Education	1 M	2 L			1 L			1 M
Enforcement	1 M	1 M	1 L	1 M				
Interpretive Data	2 M	2 L		2 M	1 L			1 M
License/Permits					2 L			
Park Information	2 L		1 M		1 L	2 M	1 M	
Programs & Events	2 M		1 L	3 L		1 L		1 L
Reservations/Usage	2 M	1 M		1 M	2 L			

KEY	
Information Priority	**Satisfaction Level**
1 = High	H = High
2 = Medium	M = Medium
3 = Low	L = Low

C. Service Information Assessment

Service information is about the activities operated, managed and overseen by the Division of Parks and Recreation. It includes information categories such as communications and marketing information, enforcement information, park information, and reservation and usage information. Interview participants generally rated all types of service information as being either critical or very important to their functions.

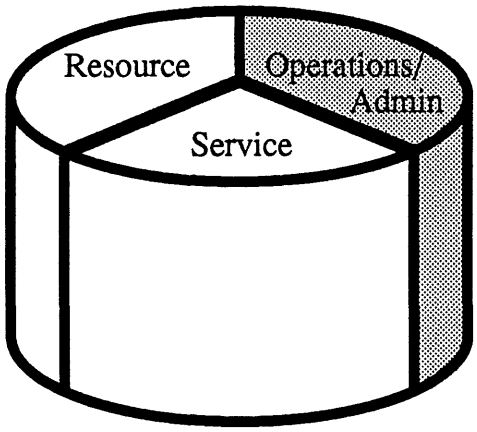
Satisfaction with service information, however, varied considerably among interview groups and it appeared to depend more on the function or geographic area represented by the group rather than the information category itself. Participants in the resource specialists and Sibley Park interviews, for example, were generally less satisfied with their service information than were interviewees in other areas.

The most persistent service information theme was the need for better communication among parks and between parks and the central office. Managers and staff throughout the state wanted information on each other's programs and enforcement activities, attendance and long range plans. Lack of effective communication between parties accounted for most of the low satisfaction rating given to communications/publicity and marketing information, enforcement information, park information, program and event information and reservation/usage information.

In addition to needing better inter-park communication, participants had several other suggestions for improving or increasing utilization of service information. Field office personnel said that they required additional and more timely enforcement information. Park visitors and people from the local communities expect park managers to have access to all current enforcement information and to be able to answer all types of enforcement questions. In order to do this, participants felt that they needed access to the conservation officers' on-line enforcement information system.

Participants also felt that many opportunities exist for creatively using reservation/usage information to boost park attendance, increase recreational opportunities, and provide better interpretive programs. Reservation information is collected through MISTIX, an automated reservation business in California, and usage information comes directly from the parks. Currently, the information is not available to the field in an automated form. As a result, it is not being used to its fullest capacity or serving as a truly strategic information resource.

Operations/Administrative Information



Information Category	Park Managers Rochester	Park Managers G. Rapids	Park Managers Sibley	Park Managers Brainerd	Resource Special-ists	St. Paul Office	Clerical Support	Inter-pretive Services
Financial Information								
Budgeting/Cost Accounting	1 L	1 L	1 L	1 L	2 L	1 M	1 L	2 M
Revenue Information	1 L	1 L	1 L				1 L	
Property Information								
Inventory (fixed & consumables)	2 M		2 L		2 M	3 L	2 L	
Merchandising	2 L	1 M	2 M	2 L			2 L	
Purchasing				1 M	2 M		1 L	3 M
People Information								
Personnel Education/Training		2 M	2 M	1 L			1 L	2 M
Personnel Info	1 L	1 M	2 M			1 M	1 L	1 L
Operational Information								
Fleet Management				2 L		2 M	2 M	
Policies, Procs. & Standards	1 L	1 M			1 L	1 L	1 M	1 L

KEY	
Information Priority	**Satisfaction Level**
1 = High	H = High
2 = Medium	M = Medium
3 = Low	L = Low

D. Operations/Administration Information Assessment

Nine categories of operations/administration information were identified during the Division of Parks and Recreation's strategic information planning interviews. These categories were then organized for analysis purposes into the following four broad information groups:

- Financial information
- Property information
- People information
- Operational information

Financial information includes budget/cost accounting and revenue information.

Property information contains information in the inventory, merchandising, and purchasing categories.

People information includes personnel and personnel education/training information.

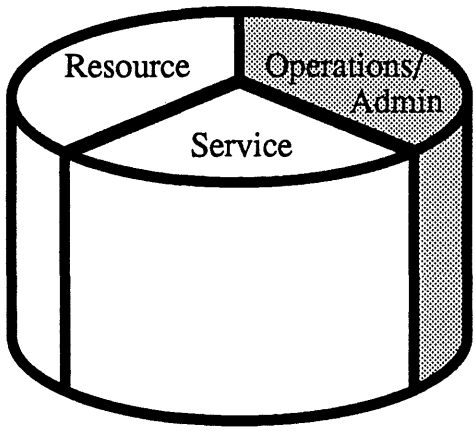
Operational information consists of the fleet management and policies, procedures and standards information categories.

Financial Information:

The information categories within the financial information group were rated as critical or very important in all of the interviews. Participants, particularly park and central office managers, stated that access to accurate and timely budget/cost accounting and revenue information was critical to the successful completion of their responsibilities.

Unfortunately, these same participants voiced a very low level of satisfaction with their financial information. Budget information was described as not timely, difficult to access, and not provided at the level of detail needed for field office operation. Park managers do not have easy access to up-to-date budget or cost accounting data from the Statewide Accounting System (SWA). Revenue information received low ratings because of the amount of duplicate effort needed to enter and retrieve the information. In addition, managers expressed frustration with their inability to efficiently reconcile their revenue and budget information.

Operations/Administrative Information



Information Category	Park Managers Rochester	Park Managers G. Rapids	Park Managers Sibley	Park Managers Brainerd	Resource Special-ists	St. Paul Office	Clerical Support	Inter-pretive Services
Financial Information								
Budgeting/Cost Accounting	1 L	1 L	1 L	1 L	2 L	1 M	1 L	2 M
Revenue Information	1 L	1 L	1 L				1 L	
Property Information								
Inventory (fixed & consumables)	2 M		2 L		2 M	3 L	2 L	
Merchandising	2 L	1 M	2 M	2 L			2 L	
Purchasing				1 M	2 M		1 L	3 M
People Information								
Personnel Education/Training		2 M	2 M	1 L			1 L	2 M
Personnel Info	1 L	1 M	2 M			1 M	1 L	1 L
Operational Information								
Fleet Management				2 L		2 M	2 M	
Policies, Procs. & Standards	1 L	1 M			1 L	1 L	1 M	1 L

KEY	
Information Priority	**Satisfaction Level**
1 = High	H = High
2 = Medium	M = Medium
3 = Low	L = Low

Property Information:

Participants rated property information as very important but slightly less critical than financial information. Park managers responsible for maintaining large state facilities and for operating increasingly important gift shops were particularly concerned about inventory and merchandising information. Central office personnel expressed a strong need for purchasing and fixed asset information.

Satisfaction with property information was mixed. Fixed and consumable inventory information received consistently low marks. Participants described inventory information as outdated, inaccurate, and not accessible. Merchandising information, which includes information on pricing, marketing, and gift shop inventories, also ranked considerably below average. It was criticized as being too paper intensive and lacking any consistency between parks. Purchasing information received generally favorable ratings from field office staff, but very low ratings from the clerical personnel most directly involved in the purchasing process. The property information category was rated as generally satisfactory. Participants in the clerical interview reported difficulties in tracking purchases and contract information, as well as vendor lists, supplier information and current purchasing procedures.

People Information:

People information, which for Parks and Recreation consisted of two types of personnel information (personnel education/training and personnel information), was generally rated as critical by interview participants. Satisfaction with personnel information was fairly evenly split between low and medium satisfaction ratings. Complaints about personnel information tended to focus more on the personnel process than on the information received by managers. Participants objected to the numerous forms and duplicate tasks associated with the hiring process. Some interviewees also reported difficulty getting the personnel information they needed.

Operations Information:

Of the two categories contained in operations information, policies, procedures and standards information were the most widely referenced by interview participants. Satisfaction with policies, procedures and standards information was low. Participants described policies and procedures as difficult to track, poorly indexed, hard to understand, often outdated, and not thoroughly disseminated within the Division.

V. Conceptual Architecture Recommendations

A. Data/Applications/Technology

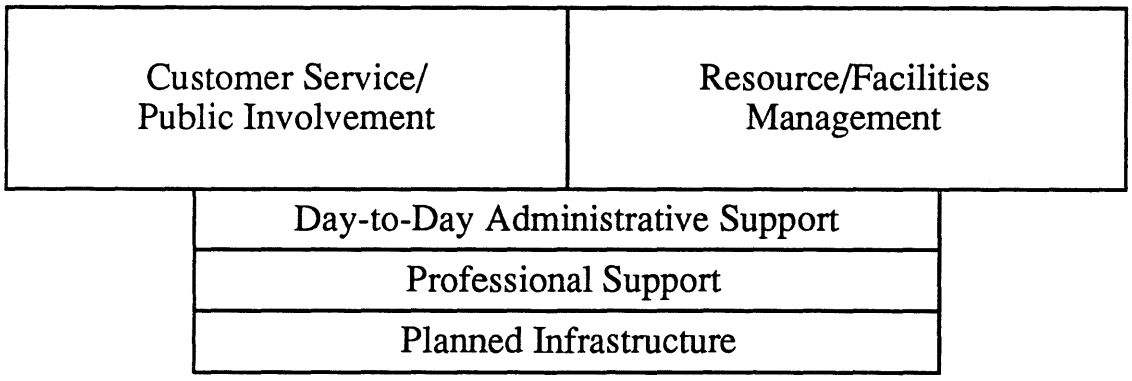
Based on the field interviews and the information vision set forth by management, the project team has identified five strategic areas within the Division. Data, applications, technology and projects can, in general, be classified as being primarily associated with one of the strategic areas. Viewing projects in this way can help management achieve a planned balance between the investments in these critical areas that support the mission and work of the Division. The five strategic areas are:

- Planned Infrastructure
- Professional Support
- Day-to-Day Administrative Support
- Customer Service/Public Involvement
- Resource/Facilities Management

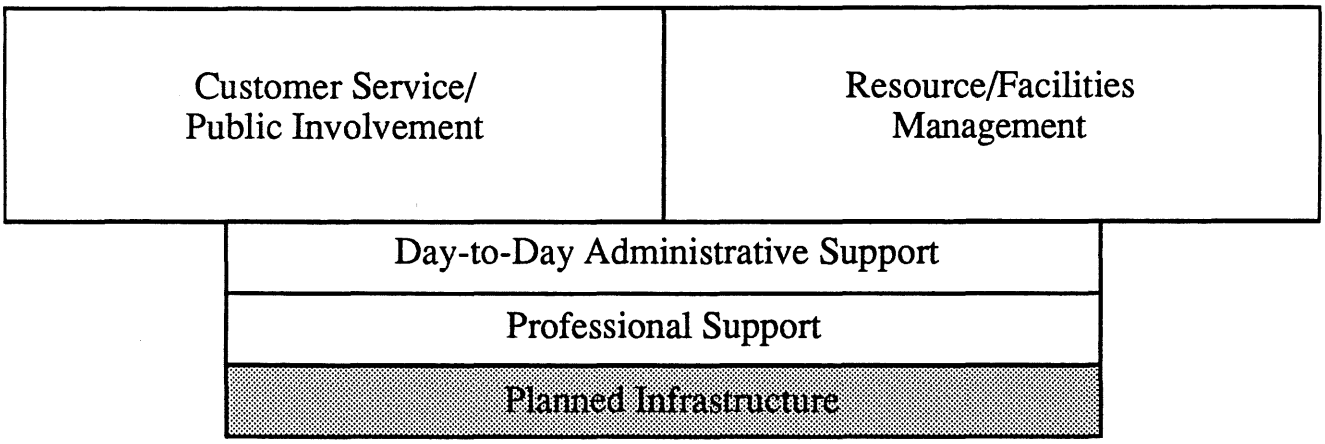
With the exception of the emphasis on facilities management, these are the same five strategic areas identified in the Division of Fish and Wildlife's plan. Using a shared conceptual architecture framework will help divisions identify areas where cooperation and synergy may take place.

The close relationship between the five strategic areas is graphically depicted below.

Division of Parks and Recreation
Conceptual Architecture



Conceptual Architecture
Planned Infrastructure



Conceptual Architecture
Planned Infrastructure

Just as a highway infrastructure supports transportation of people and goods, an orderly information infrastructure supports transportation of data and information. Without an effective infrastructure or underlying architecture, updating and sharing of critical information will not operate smoothly, nor will the business functions that depend on that information.

Infrastructure investments are complex from the Division view, as it may be possible and appropriate to piggyback on other investments or to pool efforts with others rather than creating a unique Division information infrastructure.

From the Division's perspective, an effective planned information infrastructure and architecture would allow:

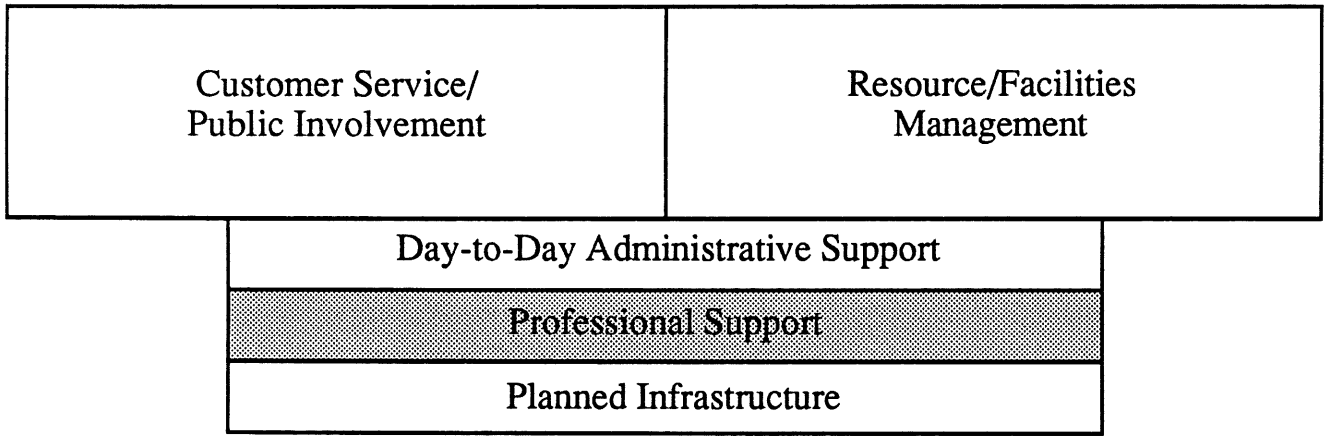
- A quick, easy, and economical means of sending local data to a central database so that it may be updated for shared use in administrative and resource management
- A quick, easy, and economical means of retrieving central database information (in whole or in part) for local use in administration or resource management
- Compatibility of local and central data formats and data manipulation tools
- Ability to choose between summary and detail data when requesting data
- Eventual usefulness in a GIS environment (to avoid "starting over" when converting to GIS)

Note that an effective investment in a planned infrastructure can pay huge dividends by partially simplifying the conversion step of GIS, which is very time-consuming and costly.

Examples of investments in planned infrastructure include:

- Hardware/Systems Software
- Communications Hardware/Software
- Support Staff

Conceptual Architecture
Professional Support



Conceptual Architecture
Professional Support

While the other four strategic areas are primarily directed toward the macro view, this strategic area relates more directly to each individual professional in the Division. This is the "micro" view, both figuratively and literally. This area includes the personal workstation configurations and support for the professionals.

This area is strategic because it is critical that the Division's professionals be empowered not only with a standardized, personally-oriented tool set, but also adequate training and support in the use of that tool set in order to implement the information vision.

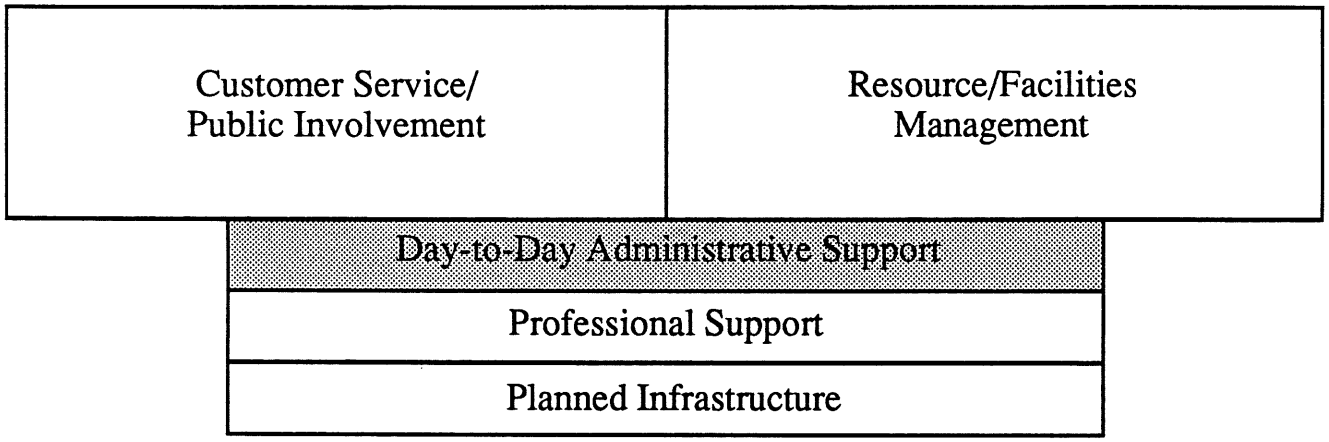
Implementation or standardization of parts of the professional support tool set will likely occur in conjunction with projects under other strategic areas. For example, project management software, training and support could initially be introduced under the day-to-day administrative support area, but portions of its life cycle cost may more properly fall under the professional support designation.

Other types of support, such as acquisition of specialized tools for small groups of workers, would fall completely under the professional support area. Professional support also represents the area in which the Division will supplement the general support offered by the MIS Bureau for any Division-specific initiatives.

Examples of investments in professional support include:

- Spreadsheet Software
- Word Processing Software
- Desktop Publishing Software
- Training

Conceptual Architecture
Day-to-Day Administrative Support



Conceptual Architecture
Day-to-Day Administrative Support

Administrative activity and information comprise a significant part of the professional workload. While administration is sometimes viewed as drudgery or a "necessary evil", this view generally results from situations where administrative work is entirely too burdensome and time consuming, not useful to its performer, or administrative data is not captured to evaluate the "real work" in the right way.

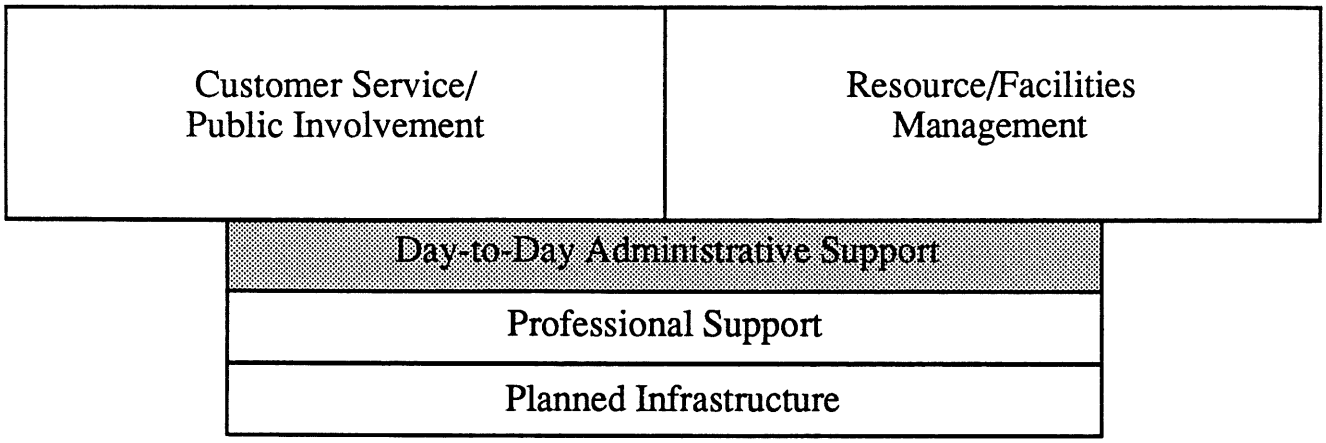
A strategic focus on remedying these problems with day-to-day administrative support can often generate several categories of benefits, including:

- Better and more timely management information
- Reporting at a more appropriate level of detail (e.g. summary vs. detail)
- Savings of professional time, which can be allocated to performing additional tasks
- Improvement in employee satisfaction and morale

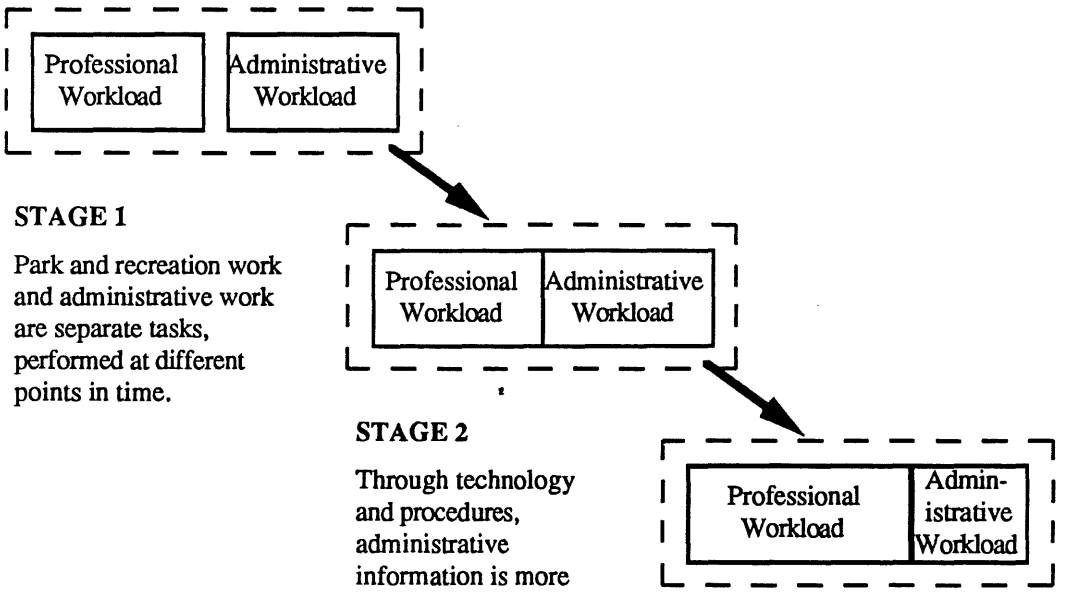
Examples of investments in day-to-day administrative support include:

- Budgeting Systems
- Merchandising Systems
- Purchasing Systems

Conceptual Architecture
Day-to-Day Administrative Support



The desired evolution of the relationships between administrative and professional workload can be depicted as follows:



STAGE 1

Park and recreation work and administrative work are separate tasks, performed at different points in time.

STAGE 2

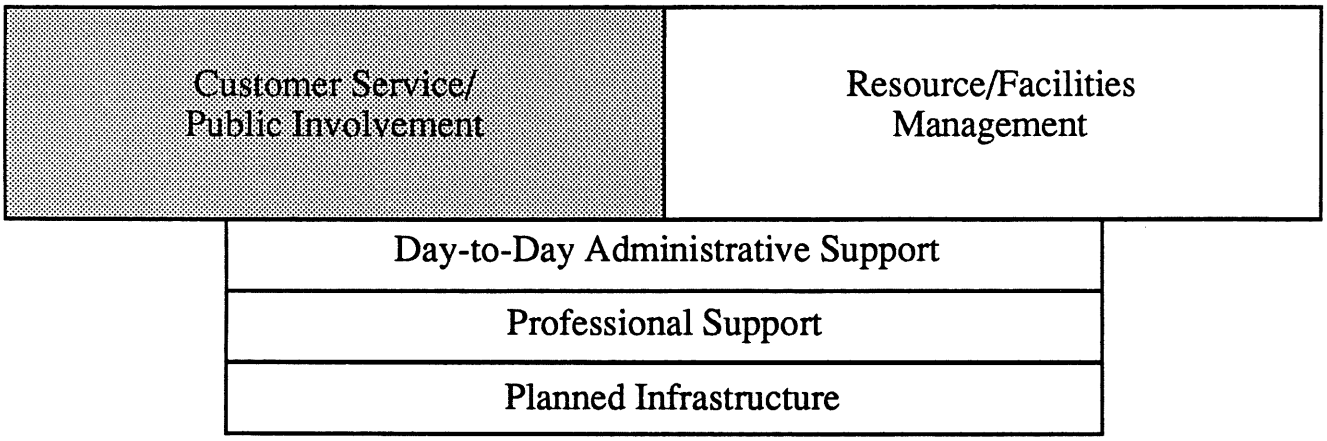
Through technology and procedures, administrative information is more closely linked with completing and evaluating park and recreation work.

STAGE 3

Through integration, where administrative information is captured as a natural by-product of work, administrative effort decreases as a percentage of total workload, freeing more time for additional park and recreation work.

Great gains in productivity and morale will accrue if the Division is successful in maximizing resource and facilities management and decreasing administrative demands.

Conceptual Architecture
Customer Service/Public Involvement



Conceptual Architecture
Customer Service/Public Involvement

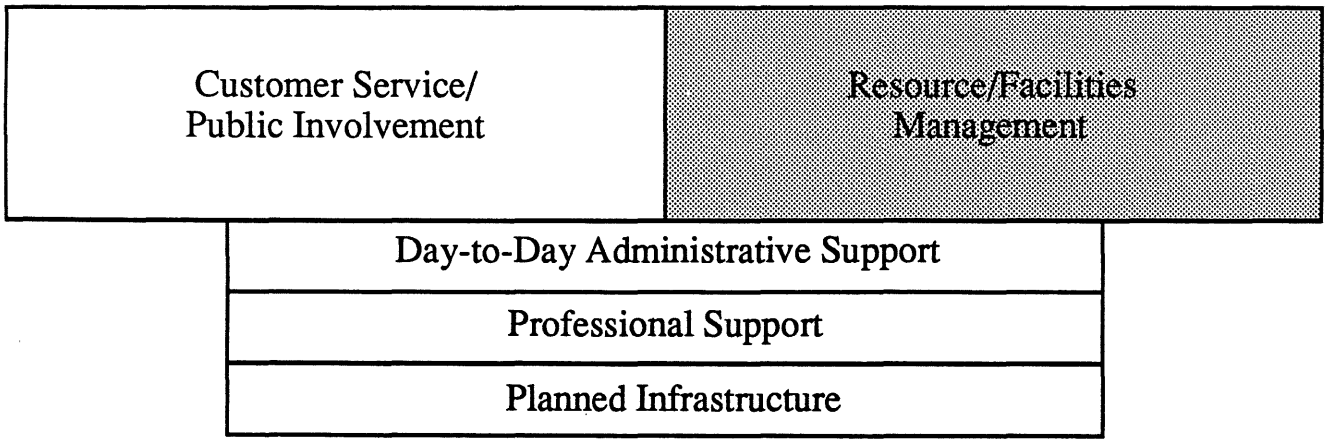
The Division serves literally millions of customers. While it is critical that the Division understands who its customers are, where they live, what they want and how to provide it, information systems related to customer service have historically been incomplete.

Additional formalization of the information channels and systems can allow the Division to better serve, inform, and involve the public. In the future, information systems may be used to deliver services to the public without human intervention. An example of such a system would be a "touch screen" capable of providing information about parks and recreational opportunities (perhaps located in shopping malls).

Other examples of investments in the customer service/public involvement conceptual architecture area would be:

- Enhancements to the park reservation system
- Relationship marketing uses of the park users database

Conceptual Architecture
Resource/Facilities Management



Conceptual Architecture
Resource/Facilities Management

Resource/facilities management is a primary responsibility of the Division. Information about what resources and facilities exist, and where they are, is required to begin the planning and management cycle.

Certain resource information (e.g. physiography, wildlife, fish, cover type, etc.) is similar in structure to that required and used by other divisions and agencies. However, Parks and Recreation requires a greater amount of facility information than many other DNR divisions.

Examples of investments in resource/facilities management include:

- Maintenance Tracking System
- Land Tracking Systems

B. Organization, Personnel and Facilities

Organization

The technology approaches taken, as determined by the Division MIS Task Force on a system-by-system basis, will impact the organization strategy of the Division. As previously described, three viable technology platform approaches are available to the Division for systems development:

- AS/400-based systems
- PC/LAN-based systems
- Stand-alone PC systems

Each of these technology approaches will require a slightly different organization structure. AS/400-based systems, for instance, will require closer organizational ties to the MIS Bureau for development and support activities. PC/LAN-based systems will require adding analysts to the organization with expertise in network setup and administration. As these three technology approaches come into use, the organization should be augmented with personnel having the appropriate background and expertise.

Personnel

As outlined in section III.F, several individuals are currently responsible for information systems support activities within the Division, mostly on an informal basis. New development activities should be completed by a group of Division systems professionals who can be dedicated to full-time systems building. Resource management personnel will play an important role in providing the input necessary to design the new systems, but should not be called upon to lead ongoing development work in addition to their normal resource management activities.

Our recommendations include hiring a programmer/analyst to assist in the development of new applications and to assist in hardware and software support.

Another strategy relating to personnel is to identify a training approach for Division personnel to ensure proficiency in the use of hardware, software, and related procedures. The development of a training approach is one of the responsibilities of the Division's MIS Task Force. Training may potentially be carried out with cooperation from local community colleges, development of special training programs in-house, or the use of software tutorials. Whenever a new system is introduced, users must be formally trained in its operation. If this is not done, the full benefit of new systems will not be realized.

Facilities

Physical facilities will be required whenever systems are installed or substantially upgraded. These include work areas, furniture, telephones and telephone lines, electrical outlets for computer equipment, cabling for LANs and PCs, and physical space for computer hardware. Some parks may not have adequate facilities or temperature control to accept new systems. Prior to purchasing equipment, these constraints should be noted and the cost-benefit of remedying them determined.

VI. Implementation Strategy

A. Management Guidelines

The Division's executive team established potential funding levels, and percentage guidelines for allocating funding between the five strategic areas of the conceptual architecture for the '92 - '93 biennium as illustrated below:

Funding Distribution Guidelines

Strategic Area	Biennium '92-'93	'94-'95	'96-'97
Customer Service	5 %	5%	5 %
Resource/Facilities Management	10 %	15 %	20 %
Day-to-Day Administrative Support	15 %	20 %	40 %
Professional Support	10 %	10 %	10 %
Planned Infrastructure	60 %	50%	25 %
	100 %	100 %	100 %

Funding Levels for '92 - '93 Biennium

Low	$240,000
Medium	$580,000
High	$1,260,000

- Established by Division Executive Team

The project team used these guidelines to prioritize projects for the '92 - '93 biennium based on the three funding levels and to develop guidelines for investment percentage distributions over the following biennia.

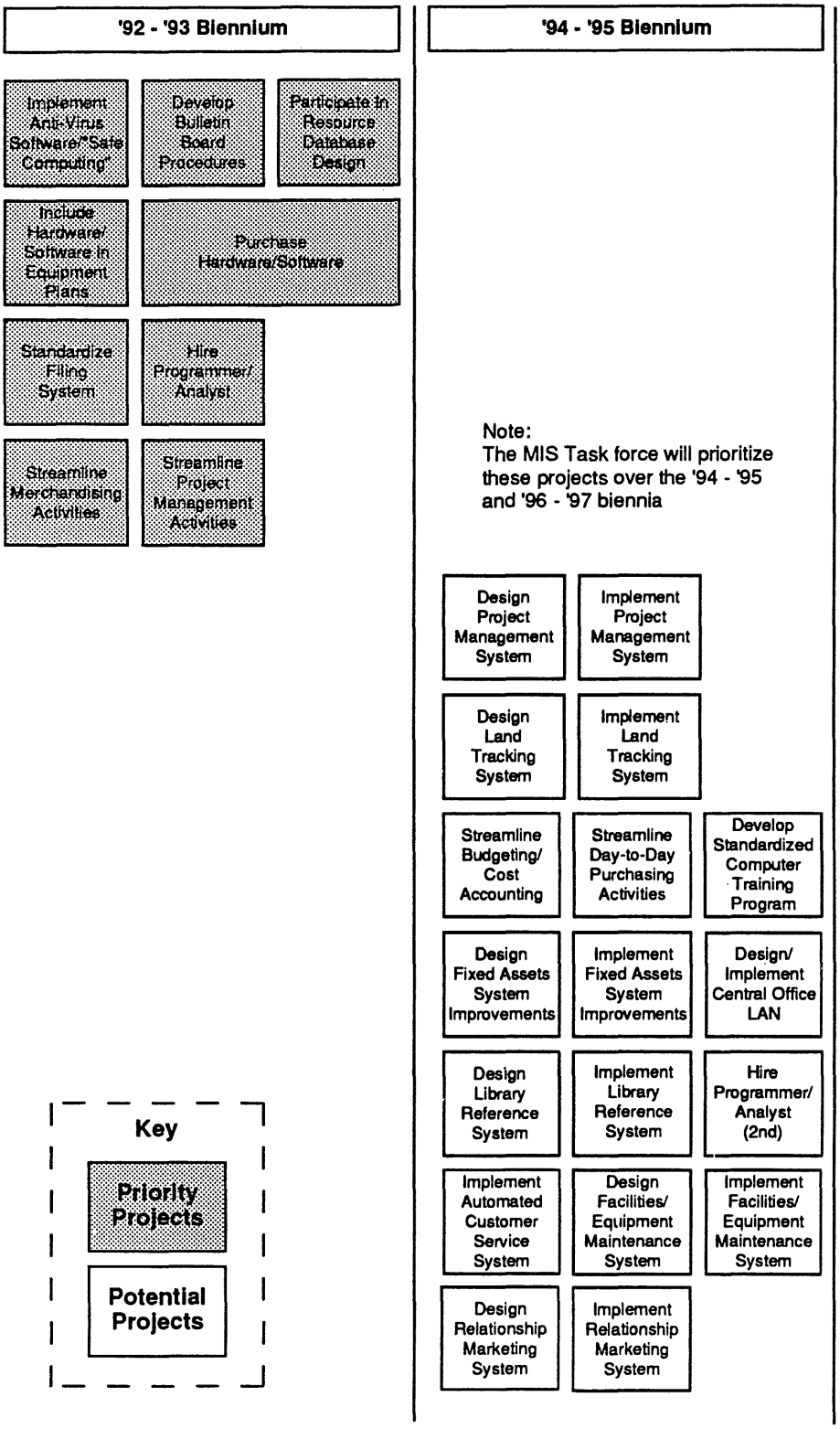
One of the ongoing responsibilities of the MIS Task Force is to prioritize projects as available funding levels are determined. (This was not done for the '94 - '95 and '96 - ' 97 biennia as funding is not yet determined).

B. Projects and Priorities

The projects and priorities identified in this section represent a Division focus rather than a Department focus. It is important to emphasize that, prior to undertaking any of these projects, Department-wide initiatives should be reviewed to identify similar or parallel initiatives. It is also important to include the MIS Bureau in the detailed planning process, to take advantage of the in-house capabilities and to leverage existing information and technology resources.

Proposed Projects/Priorities

Funding Level of $240,000 for '92 - '93 Biennium



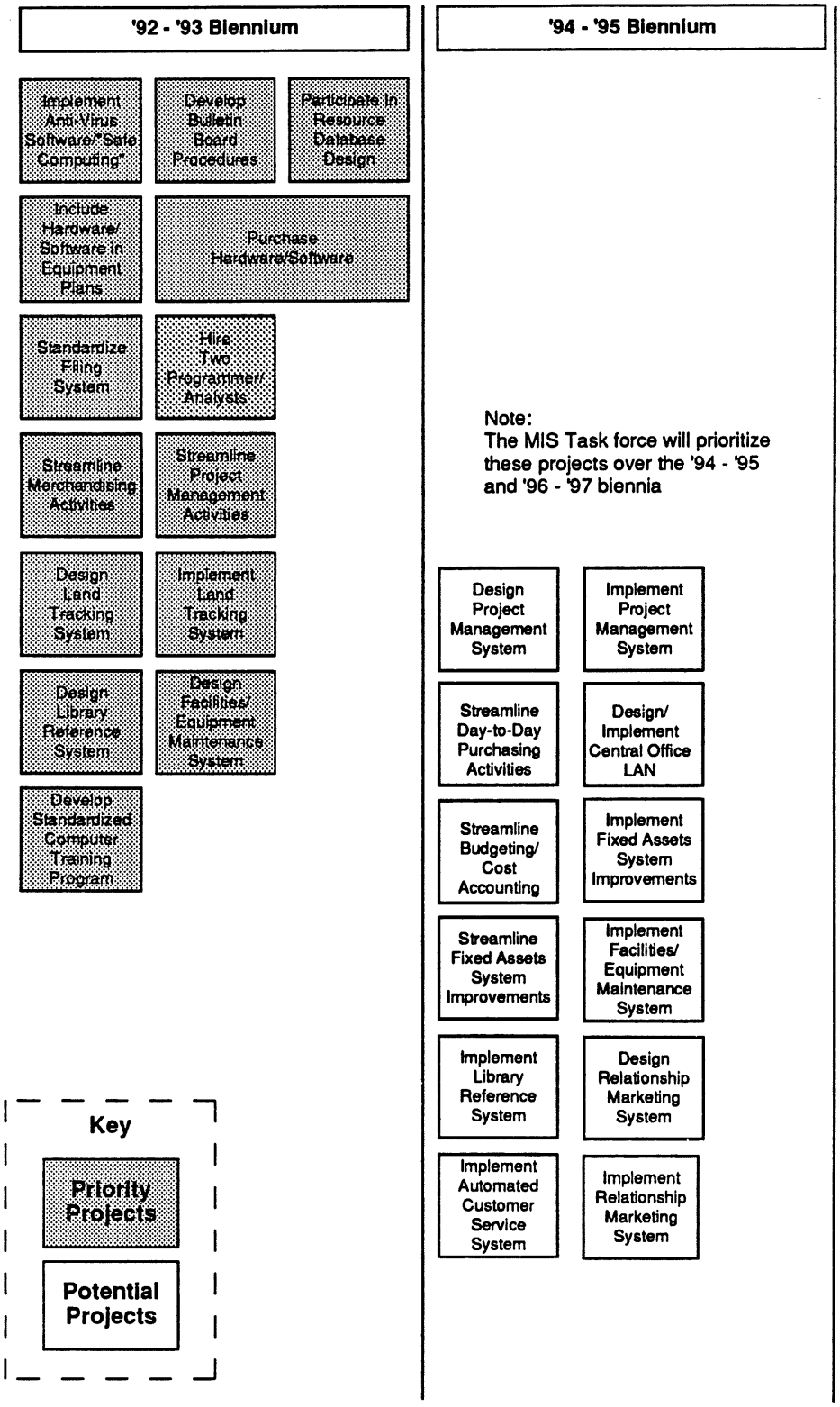
Proposed Projects/Priorities

Funding Level of $240,000 for '92 - '93 Biennium

Project	Estimated Change Level Cost
• Implement Anti-Virus Software/"Safe Computing" Practices	$0
• Develop Bulletin Board Procedures	$0
• Participate in Resource Database Design	$0
• Include Hardware/Software in Equipment Plans	$0
• Purchase Hardware/Software	$115,000
• Standardize Filing System	$10,000
• Hire Programmer/Analyst	$45,000
• Streamline Merchandising Activities	$40,000
• Streamline Project Management Activities	$30,000
Total	$240,000

Proposed Projects/Priorities

Funding Level of $580,000 for '92 - '93 Biennium



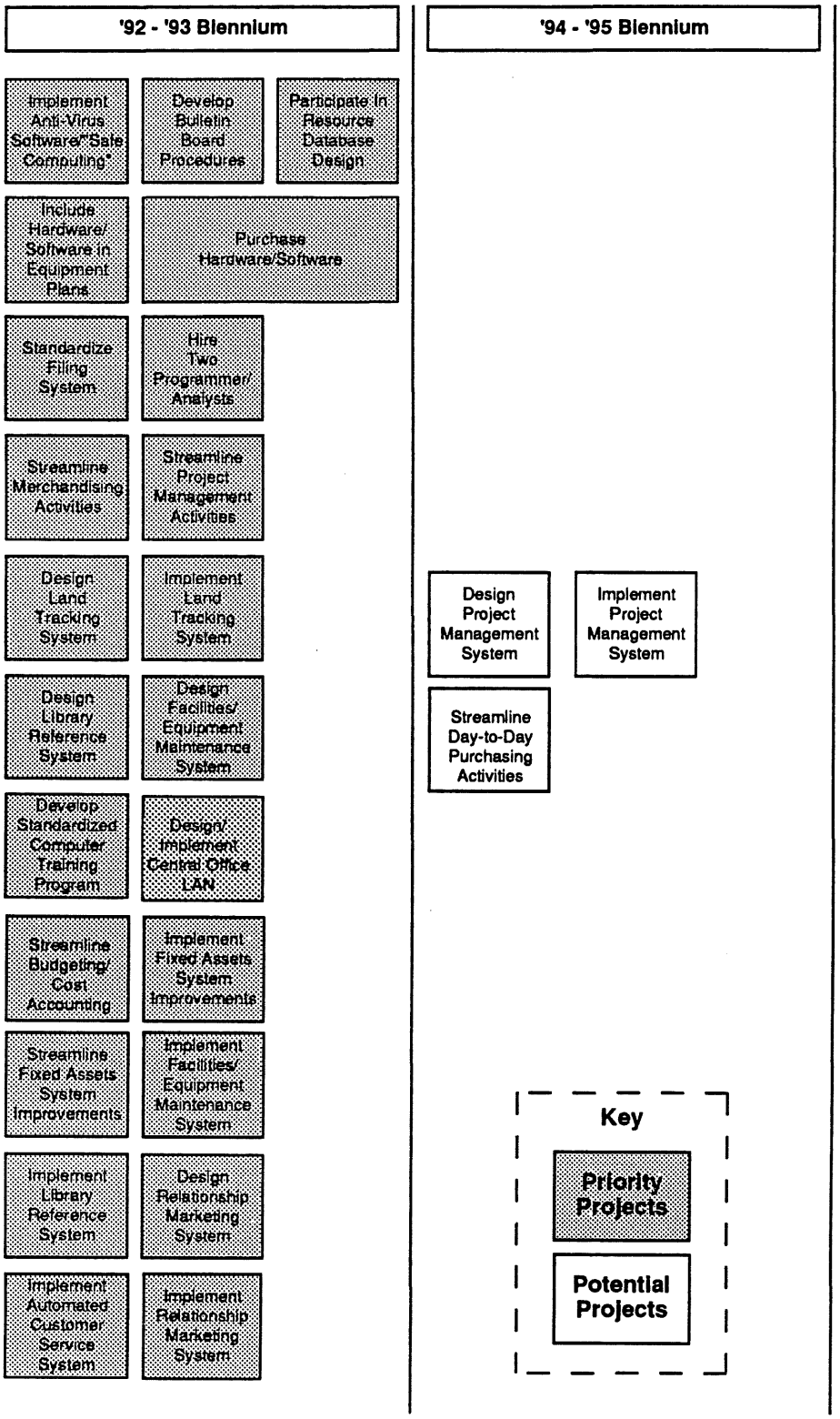
Proposed Projects/Priorities

Funding Level of $580,000 for '92 - '93 Biennium

Project	Estimated Change Level Cost
• Implement Anti-Virus Software/"Safe Computing" Practices	$0
• Develop Bulletin Board Procedures	$0
• Participate in Resource Database Design	$0
• Include Hardware/Software in Equipment Plans	$0
• Purchase Hardware/Software	$230,000
• Standardize Filing System	$10,000
• Hire Two Programmer/Analysts	$90,000
• Streamline Merchandising Activities	$40,000
• Streamline Project Management Activities	$30,000
• Design Land Tracking System	$40,000
• Implement Land Tracking System	$20,000
• Develop Standardized Computer Training Program	$30,000
• Design Library Reference System	$50,000
• Design Facilities/Equipment Maintenance Systems	$40,000
Total	$580,000

Proposed Projects/Priorities

Funding Level of $1,260,000 for '92 - '93 Biennium



Proposed Projects/Priorities

Funding Level of $1,260,000 for '92 - '93 Biennium

Project	Estimated Change Level Cost
• Implement Anti-Virus Software/"Safe Computing" Practices	$0
• Develop Bulletin Board Procedures	$0
• Participate in Resource Database Design	$0
• Include Hardware/Software in Equipment Plans	$0
• Purchase Hardware/Software	$230,000
• Standardize Filing System	$10,000
• Hire Two Programmer/Analysts	$90,000
• Streamline Merchandising Activities	$40,000
• Streamline Project Management Activities	$30,000
• Design Land Tracking System	$40,000
• Implement Land Tracking System	$20,000
• Develop Standardized Computer Training Program	$30,000
• Design Library Reference System	$50,000
• Design Facilities/Equipment Maintenance Systems	$40,000
• Implement Facilities/Equipment Maintenance Systems	$45,000
• Implement Library Reference Systems	$180,000
• Design/Implement Automated Customer Service	$245,000
• Design/Implement Relationship Marketing	$90,000
• Streamline Cost Accounting	$15,000
• Streamline Fixed Assets	$15,000
• Design/Implement Local Area Network Central Office	$90,000
Total	$1,260,000

C. Project Descriptions

Project ☐ Priority Item ☑

Name: Implement Anti-Virus Software and "Safe Computing" Practices

Description:
All LAN's and stand-alone PC's should have anti-virus software installed as protection against computer viruses.

Recommendation Cross-Reference: 1c

'92 - '93 Biennium Estimated Incremental Costs:
No incremental funding required if public domain software is used

Project ☑ Priority Item ☐

Name: Develop Bulletin Board Procedures

Description:
Written procedures for use of the electronic bulletin board should be enhanced to ensure proper use of the facility.

Recommendation Cross-Reference: 1d

'92 - '93 Biennium Estimated Incremental Costs:
No incremental funding required

Project ☐ Priority Item ☑

Name: Participate in Resource Database Design

Description:
The Division should participate with other divisions whenever resource databases are designed.

Recommendation Cross-Reference: 4a

'92 - '93 Biennium Estimated Incremental Costs:
No incremental funding required

Project ☐ Priority Item ☑

Name: Include Hardware/Software in Equipment Plans

Description:
Finalize the schedule for acquisition of hardware and software over the planning period. The schedule should detail what hardware and software would be purchased for each park, region, and central office area.

Recommendation Cross-Reference: 9a

'92 - '93 Biennium Estimated Incremental Costs:
No incremental funding required

Project ☐ Priority Item ☑

Name: Purchase Hardware/Software

Description:
Purchase standard hardware and software for locations where it is required. Provide users with training regarding hardware and software operations.

Recommendation Cross-Reference: 9a

'92 - '93 Biennium Estimated Incremental Costs:
Hardware and Software - $30,000 - $230,000

Project ☐ Priority Item ☑

Name: Standardize Filing System

Description:
Develop Division-wide standards for reference material indexing, storage and retention to alleviate filing problems.

Recommendation Cross-Reference: 1g

'92 - '93 Biennium Estimated Incremental Costs:
Contractor Services - $10,000

Project ☐ Priority Item ☑

Name: Hire Programmer/Analyst

Description:
An analyst should be hired to assist in projects throughout the Division, this would include developing the following applications. Each project is cross-referenced to its corresponding recommendation.

- Automated form and document templates (1f)
- Library reference system (1h)
- Fixed assets system (2c)
- Project management system (3a)
- Land tracking system (6a)
- Facilities and equipment maintenance system (7a)

Recommendation Cross-References: 1a, 1f, 1h, 2c, 3a, 6a, 7a

'92 - '93 Biennium Estimated Incremental Costs:
Personnel - $45,000 - $90,000

Project ☑ Priority Item ☐

Name: Streamline Merchandising Activities

Description:
Current merchandising activities should be analyzed and streamlined. Standards should be developed for the merchandising program including pricing guidelines, procedures, accounting and reporting standards and general objectives for the merchandising program.

Recommendation Cross-Reference: 2d

'92 - '93 Biennium Estimated Incremental Costs:
Contractor Services - $40,000

Project ☑ Priority Item ☐

Name: Streamline Project Management Activities

Description:
Prior to the design and implementation of a project management system, work flows associated with project management should be reviewed and analyzed to determine the existence of inefficient or redundant work steps. Work flows should then be re-engineered to streamline activities and improve productivity.

Recommendation Cross-Reference: 1e

'92 - '93 Biennium Estimated Incremental Costs:
Contractor Services - $30,000

Project ☑ Priority Item ☐

Name: Design Project Management System

Description:
A project management system should be designed or selected for Division-wide use that will automate project management activities.

Recommendation Cross-Reference: 3a

Project ☑ Priority Item ☐

Name: Implement Project Management System

Description:
The design for the project management system should be implemented. Implementation would consist of finalizing the design, coding, unit and system testing, developing written procedures, and training users in its operation.

Recommendation Cross-Reference: 3a

Project ☑ Priority Item ☐

Name: Design Land Tracking System

Description:
A land tracking system should be designed for Division-wide (or potentially agency-wide) use.

Recommendation Cross-Reference: 6a
'92-93 Biennium Estimated Incremental Costs: $40,000

Project ☑ Priority Item ☐

Name: Implement Land Tracking System

Description:
The design for the land tracking system should be implemented. Implementation would consist of finalizing the design, coding, unit and system testing, developing written procedures, and training users in its operation.

Recommendation Cross-Reference: 6a
'92-93 Biennium Estimated Incremental Costs: $20,000

Project ☑ Priority Item ☐

Name: Streamline Budgeting/Cost Accounting Activities

Description:
The Division should continue its efforts to review and analyze work flows associated with budgeting and cost accounting. Activities should be reviewed and analyzed to determine the existence of inefficient or redundant work steps. Work flows should then be re-engineered to streamline activities and improve productivity.

Recommendation Cross-Reference: 2a
'92-93 Biennium Estimated Incremental Costs: $15,000

Project ☑ Priority Item ☐

Name: Streamline Day-to-Day Purchasing Activities

Description:
Prior to the development of a purchasing procedures manual, work flows associated with purchasing should be reviewed and analyzed to determine the existence of inefficient or redundant work steps. Work flows should then be re-engineered to streamline activities and improve productivity. Written procedures should then be developed that identify the step-by-step purchasing procedures.

Recommendation Cross-Reference: 2b

Project ☑ Priority Item ☐

Name: Develop Standardized Computer Training Program

Description:
A standard computer training program should be developed to provide hardware/software basics and instructions in Division-wide applications.

Recommendation Cross-Reference: 8a
'92-93 Biennium Estimated Incremental Costs: $30,000

Project ☑ Priority Item ☐

Name: Streamline Fixed Assets System Improvements

Description:
Investigate why the data in the existing fixed assets system is out-of-date and unusable and design needed procedural and system changes to support this critical area.

Recommendation Cross-Reference: 1c
'92-93 Biennium Estimated Incremental Costs: $15,000

Project ☑ Priority Item ☐

Name: Design Library Reference System

Description:
A database system should be designed for Division-wide use that provides a comprehensive listing of reference materials.

Recommendation Cross-Reference: 1h
'92-93 Biennium Estimated Incremental Costs: $50,000

Project ☑ Priority Item ☐

Name: Implement Library Reference System

Description:
The design for the library reference system should be implemented. Implementation would consist of finalizing the design, coding, unit and system testing, developing written procedures, and training users in the operation of the library reference system.

Recommendation Cross-Reference: 1h
'92-93 Biennium Estimated Incremental Costs: $180,000

Project ☑ Priority Item ☐

Name: Design Facilities/Equipment Maintenance System

Description:
A facilities/equipment maintenance system should be selected or designed for Division-wide use that contains facilities and equipment maintenance records and timetables.

Recommendation Cross-Reference: 7a
'92-93 Biennium Estimated Incremental Costs: $40,000

Project ☑ Priority Item ☐

Name: Implement Facilities/Equipment Maintenance System

Description:
The design for the facilities/equipment maintenance system should be implemented. Implementation would consist of finalizing the design, coding, unit and system testing, developing written procedures, and training users in the operation of the facilities/equipment maintenance system.

Recommendation Cross-Reference: 7a
'92-93 Biennium Estimated Incremental Costs: $45,000

Project ☑ Priority Item ☐

Name: Implement Automated Customer Service System

Description:
This system could potentially include enhanced phone automation capable of directing customer calls through touch-tone entry. It could also provide operators with artificial intelligence assistance to allow them to answer public queries about parks and resources.

Recommendation Cross-Reference: 2e
'92-93 Biennium Estimated Incremental Costs: $245,000

Project ☑ Priority Item ☐

Name: Design Relationship Marketing System

Description:
Design a relationship marketing system that provides a database of park use and customer information. The database would draw from the MISTIX reservations system as well as data on other user groups such as:

- Annual permit holders
- Passport Club Holders
- Callers to the Parks Information Line
- Volksmarch registrants
- Fishing and Hiking Club Members
- Snowmobilers and cross-country skiers

Recommendation Cross-Reference: 2f
'92-93 Biennium Estimated Incremental Costs: $30,000

Project ☑ Priority Item ☐

Name: Implement Relationship Marketing System

Description:
The design for the relationship marketing system should be implemented. Implementation would consist of finalizing the design, coding, unit and system testing, developing written procedures, and training users in the operation of the relationship marketing system.

Recommendation Cross-Reference: 2f
'92-93 Biennium Estimated Incremental Costs: $60,000

Project ☑ Priority Item ☐

Name: Design/Implement a Central Office Local Area Network

Description:
Purchase equipment and software, and install it. Train staff to operate the system.

Recommendation Cross-Reference: 2f
'92-93 Biennium Estimated Incremental Costs: $90,000

VIII. Acknowledgements

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